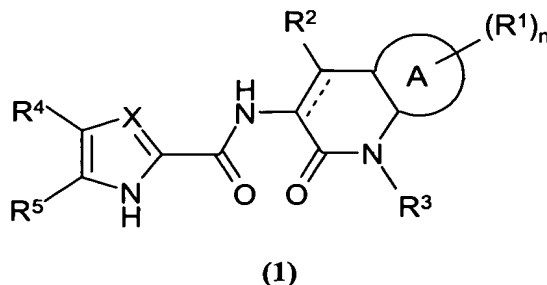


Claims

1. A compound of formula (1):



wherein

----- is a single or double bond;

X is N or CH;

R⁴ and R⁵ together are -S-C(R⁶)=C(R⁷)- or -C(R⁷)=C(R⁶)-S-;

R⁶ and R⁷ are independently selected from hydrogen, halo, nitro, cyano, hydroxy, fluoromethyl, difluoromethyl, trifluoromethyl, trifluoromethoxy, carboxy, carbamoyl, C₁₋₄alkyl, C₂₋₄alkenyl, C₂₋₄alkynyl, C₁₋₄alkoxy, and C₁₋₄alkanoyl;

A is phenylene or heteroarylene;

n is 0, 1, or 2;

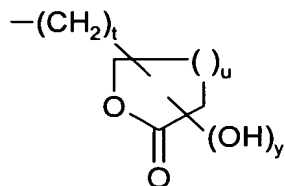
R¹ is independently selected from halo, nitro, cyano, hydroxy, carboxy, carbamoyl, N-C₁₋₄alkylcarbamoyl, N,N-(C₁₋₄alkyl)₂carbamoyl, sulphamoyl, N-C₁₋

4alkylsulphamoyl, N,N-(C₁₋₄alkyl)₂sulphamoyl, -S(O)_bC₁₋₄alkyl (wherein b is 0, 1, or 2), C₁₋₄alkyl, C₂₋₄alkenyl, C₂₋₄alkynyl, C₁₋₄alkoxy, C₁₋₄alkanoyl, C₁₋₄alkanoyloxy, hydroxyC₁₋₄alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, and trifluoromethoxy; or

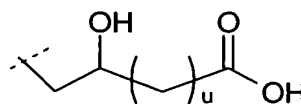
when n is 2, the two R¹ groups, together with the carbon atoms of A to which they are attached, may form a 4- to 7-membered ring, optionally containing 1 or 2 heteroatoms independently selected from O, S, and N, and optionally being substituted with one or two methyl groups;

R² is hydrogen, hydroxy, or carboxy;

R³ is selected from hydrogen, hydroxy, C₁₋₄alkoxy, C₁₋₄alkanoyl, carbamoyl, C₃₋₇cycloalkyl (optionally substituted with 1 or 2 hydroxy groups), cyano(C₁₋₄)alkyl, aryl, heterocyclyl, C₁₋₄alkyl (optionally substituted with 1 or 2 R⁸ groups), and groups of the formulae B or B'



(B)



(B')

wherein y is 0 or 1, t is 0, 1, 2, or 3 and u is 1 or 2; provided that the hydroxy group is not a substituent on the ring carbon adjacent to the ring oxygen;

R^8 is independently selected from hydroxy, C_{1-4} alkoxy C_{1-4} alkoxy, hydroxy C_{1-4} alkoxy, 5- and 6-membered cyclic acetals and mono- and di-methyl derivatives thereof, aryl, heterocyclyl, C_{3-7} cycloalkyl, C_{1-4} alkanoyl, C_{1-4} alkoxy, C_{1-4} alkylS(O) $_b$ - (wherein b is 0, 1, or 2), C_{3-6} cycloalkylS(O) $_b$ - (wherein b is 0, 1, or 2), arylS(O) $_b$ - (wherein b is 0, 1, or 2), heterocyclylS(O) $_b$ - (wherein b is 0, 1, or 2), benzylS(O) $_b$ - (wherein b is 0, 1, or 2), -N(OH)CHO, -C(=N-OH)NH $_2$, -C(=N-OH)NHC $_{1-4}$ alkyl, -C(=N-OH)N(C $_{1-4}$ alkyl) $_2$, -C(=N-OH)NHC $_{3-6}$ cycloalkyl, -C(=N-OH)N(C $_{3-6}$ cycloalkyl) $_2$, -COCOOR 9 , -C(O)N(R 9)(R 10), -NHC(O)R 9 , -C(O)NHSO $_2$ (C $_{1-4}$ alkyl), -NHSO $_2$ R 9 , (R 9)(R 10)NSO $_2$ -, -COCH $_2$ OR 11 , (R 9)(R 10)N-, and -COOR 9 ;

R 9 and R 10 are independently selected from hydrogen, hydroxy, C_{1-4} alkyl (optionally substituted with 1 or 2 R 13), C_{3-7} cycloalkyl (optionally substituted with 1 or 2 hydroxy groups), cyano(C $_{1-4}$)alkyl, trihalo(C $_{1-4}$)alkyl, aryl, heterocyclyl, and heterocyclyl(C $_{1-4}$ alkyl); or

R 9 and R 10 together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring is optionally substituted on carbon with 1 or 2 substituents independently selected from oxo, hydroxy, carboxy, halo, nitro, cyano, carbonyl, C_{1-4} alkoxy, and heterocyclyl; or

the ring may be optionally substituted on two adjacent carbons with -O-CH $_2$ -O- to form a cyclic acetal wherein one or both of the hydrogens of the -O-CH $_2$ -O- group may be replaced by a methyl;

R 13 is selected from hydroxy, halo, trihalomethyl, and C_{1-4} alkoxy; and

R 11 is independently selected from hydrogen, C_{1-4} alkyl, and hydroxy C_{1-4} alkyl; or a pharmaceutically acceptable salt or prodrug thereof; with the proviso that the compound of formula (1) is not:

- (i) 2,3-dichloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-4*H*-thieno[3,2-*b*]pyrrole;
- (ii) 2-chloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole; or
- (iii) 2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

2. A compound of claim 1, wherein

R³ is selected from hydrogen, hydroxy, C₁₋₄alkoxy, C₁₋₄alkanoyl, carbamoyl, C₃₋₇cycloalkyl (optionally substituted with 1 or 2 hydroxy groups), cyano(C₁₋₄)alkyl, morpholino, morpholinyl, piperidino, piperidyl, pyridyl, pyranyl, pyrrolyl, imidazolyl, thiazolyl, thienyl, thiadiazolyl, piperazinyl, isothiazolidinyl, 1,3,4-triazolyl, tetrazolyl, pyrrolidinyl, thiomorpholino, pyrrolinyl, homopiperazinyl, 3,5-dioxapiperidinyl, pyrimidyl, pyrazinyl, pyridazinyl, pyrazolyl, pyrazolinyl, isoxazolyl, 4-oxopyridyl, 2-oxopyrrolidyl, 4-oxothiazolidyl, furyl, thienyl, oxazolyl, 1,3,4-oxadiazolyl, 1,2,4-oxadiazolyl, tetrahydrothiopyranyl, 1-oxotetrahydrothiopyranyl, 1,1-dioxotetrahydrothiopyranyl, and C₁₋₄alkyl (optionally substituted with 1 or 2 R⁸ groups);

R⁹ and R¹⁰ are independently selected from hydrogen, hydroxy, C₁₋₄alkyl (optionally substituted with 1 or 2 R¹³ groups), C₃₋₇cycloalkyl (optionally substituted with 1 or 2 hydroxy groups), cyano(C₁₋₄)alkyl, trihalo C₁₋₄alkyl, aryl, heterocyclyl, and heterocyclyl(C₁₋₄alkyl); or

R⁹ and R¹⁰ together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring is optionally substituted on carbon with 1 or 2 substituents selected from oxo, hydroxy, carboxy, halo, nitro, cyano, carbonyl, and C₁₋₄alkoxy, or the ring may be optionally substituted on two adjacent carbons with -O-CH₂-O- to form a cyclic acetal wherein one or both of the hydrogens of the -O-CH₂-O- group may be replaced by a methyl;

R⁸ is independently selected from hydroxy, C₁₋₄alkoxyC₁₋₄alkoxy, hydroxyC₁₋₄alkoxy, 5- and 6-membered cyclic acetals and mono- and di-methyl derivatives thereof, aryl, heterocyclyl, C₃₋₇cycloalkyl, C₁₋₄alkanoyl, C₁₋₄alkoxy, C₁₋₄alkylS(O)_b- (wherein b is 0, 1, or 2), C₃₋₆cycloalkylS(O)_b- (wherein b is 0, 1, or 2), arylS(O)_b- (wherein b is 0, 1, or 2), heterocyclylS(O)_b- (wherein b is 0, 1, or 2), benzylS(O)_b- (wherein b is 0, 1, or 2), -N(OH)CHO, -C(=N-OH)NH₂,

-C(=N-OH)NHC₁₋₄alkyl, -C(=N-OH)N(C₁₋₄alkyl)₂, -C(=N-OH)NHC₃₋₆cycloalkyl, -C(=N-OH)N(C₃₋₆cycloalkyl)₂, -COCOOR⁹, -C(O)N(R⁹)(R¹⁰), -NHC(O)R⁹, -C(O)NHSO₂(C₁₋₄alkyl), -NHSO₂R⁹, (R⁹)(R¹⁰)NSO₂-, -COCH₂OR¹¹, (R⁹)(R¹⁰)N-, and -COOR⁹;

R¹³ is selected from hydroxy, halo, trifluoromethyl, and C₁₋₄alkoxy; and

R¹¹ is selected from hydrogen, C₁₋₄alkyl, and hydroxyC₁₋₄alkyl;

or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof;

provided that the compound of formula (1) is not

- (i) 2,3-dichloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-4*H*-thieno[3,2-*b*]pyrrole;
- (ii) 2-chloro-5-[*N*-(2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole; or
- (iii) 2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

3. A compound of claim 1, wherein

R³ is selected from cyanoC₁₋₄alkyl and C₁₋₄alkyl (optionally substituted with 1 or 2 R⁸ groups);

R⁸ is independently selected from hydroxy, phenyl, 2,2-dimethyl-1,3-dioxolan-4-yl, 2,2-dimethyl-1,3-dioxan-4-yl; 2,2-dimethyl-1,3-dioxan-5-yl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, triazolyl, tetrazolyl, imidazolyl, pyrrolidinyl, piperidyl, tetrahydrofuryl, tetrahydropyranyl, tetrahydrothiopyranyl, tetrahydrothienyl, C₁₋₄alkoxy, C₁₋₄alkanoyl, C₁₋₄alkylS(O)_b- (wherein b is 0, 1, or 2), -C(O)N(R⁹)(R¹⁰), -COOR⁹, -C(O)NHSO₂Me, -C(=N-OH)NH₂, -C(=N-OH)NHC₁₋₄alkyl, -C(=N-OH)N(C₁₋₄alkyl)₂, and -NHSO₂R⁹; and

R⁹ and R¹⁰ are independently selected from hydrogen, hydroxy, and C₁₋₄alkyl optionally substituted with R¹³ (wherein R¹³ is C₁₋₄alkoxy or hydroxy); or

R⁹ and R¹⁰ together with the nitrogen to which they are attached form a 4- to 6-membered ring where the ring may be optionally substituted on carbon with 1 or 2 hydroxy groups or carboxy groups, or the ring may be optionally substituted on two adjacent carbons with -O-CH₂-O- to form a cyclic acetal wherein one or both of the hydrogens of the -O-CH₂-O- group may be replaced by a methyl.

or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof;

provided that the compound of formula (1) is not:

2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

4. A compound of claim 1, wherein

R^3 is selected from cyano, C_{1-4} alkyl and C_{1-4} alkyl (optionally substituted with 1 or 2 R^8 groups);

R^8 is independently selected from hydroxy, 2,2-dimethyl-1,3-dioxolan-4-yl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, tetrazolyl, C_{1-4} alkoxy, C_{1-4} alkanoyl, C_{1-4} alkylS(O)_b- (wherein b is 0, 1, or 2), -C(O)N(R^9)(R^{10}), -COOR⁹, -C(O)NHSO₂Me, and -C(=N-OH)NH₂; and

R^9 and R^{10} are independently selected from hydrogen, hydroxy, and C_{1-4} alkyl optionally substituted with R^{13} (wherein R^{13} is C_{1-4} alkoxy or hydroxy); or

R^9 and R^{10} together with the nitrogen to which they are attached form a 4- to 6-membered ring selected from piperidine, 4-hydroxy piperidine, pyrrolidine, 3,4-dihydroxypyrrolidine, and the dimethylacetal of 3,4-dihydroxypyrrolidine; or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof; provided that the compound of formula (1) is not 2-chloro-5-[*N*-(1-methyl-2-oxo-1,2,3,4-tetrahydroquinol-3-yl)carbamoyl]-6*H*-thieno[2,3-*b*]pyrrole.

5. A compound of claim 1, wherein

R^4 and R^5 together are -S-C(R^6)=C(R^7)- or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

6. A compound of claim 1, wherein

R^4 and R^5 together are -C(R^7)=C(R^6)-S-, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

7. A compound of claim 1, wherein X is CH, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

8. A compound of claim 1, wherein X is N, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

9. A compound of claim 1, wherein A is phenylene, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.
10. A compound of claim 1, wherein A is heteroarylene, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.
11. A compound of claim 1, wherein --- is a single bond, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.
12. A compound of claim 1, selected from
- 2-chloro-*N*-[1-(methoxycarbonylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- N*-[1-(carboxymethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(carbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(*N,N*-dimethylcarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(*N*-methylcarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(*N*-hydroxycarbamoylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-{1-[*N*-(2-hydroxyethyl)carbamoylmethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(2-hydroxyethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(2,3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-{1-[(2,2-dimethyl-1,3-dioxolan-4(*S*)-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
- 2-chloro-*N*-[1-(2(*S*),3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(2,2-dimethyl-1,3-dioxolan-4(*R*)-ylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide

2-chloro-*N*-[1-(2(*R*),3-dihydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3(*R,S*)-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(4-hydroxypiperidin-1-yl)-2-oxoethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[*N*-(1,3-dihydroxyprop-2-yl)carbamoylemethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[*N*-(2-Methoxyethyl)carbamoylemethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(3*a*,6*a*- *cis*)-2,2-dimethyltetrahydro-5*H*-[1,3]dioxolo[4,5-*c*]pyrrol-5-yl]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(*cis*)-3,4-Dihydroxypyrrolidin-1-yl]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(dimethylamino)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[(2,2-dimethyl-1,3-dioxan-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-hydroxy-2-(hydroxymethyl)propyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[(2,2-dimethyl-1,3-dioxan-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[3-hydroxy-2-(hydroxymethyl)propyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(2,3-dihydroxypropyl)amino]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methoxy)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(cyanomethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[(3-methyl-1,2,4-oxadiazol-5-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[2-oxo-1-(1*H*-tetrazol-5-ylmethyl)-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-(1-{2-[(methylsulphonyl)amino]-2-oxoethyl}-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

N-{1-[(2*Z*)-2-amino-2-(hydroxyimino)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{2-oxo-1-[(5-oxo-4,5-dihydro-1,2,4-oxadiazol-3-yl)methyl]-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

N-{1-[(5-amino-1,3,4-oxadiazol-2-yl)methyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-2-chloro-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylthio)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylsulfinyl)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[2-(methylsulfonyl)ethyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-[1-(methoxycarbonylmethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

N-[1-(carboxymethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-2,3-dichloro-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-[1-(2-hydroxyethyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2,3-dichloro-*N*-{1-[(2*R*)-2,3-dihydroxypropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-(dimethylamino)-2-hydroxypropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{2-oxo-1-[(2-oxo-1,3-dioxan-5-yl)methyl]-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(3-hydroxypropyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-{1-[3-(methylamino)-3-oxopropyl]-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl}-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

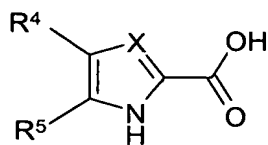
2-chloro-*N*-[2-oxo-1-(2-oxobutyl)-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;

2-chloro-*N*-[1-(2-hydroxybutyl)-2-oxo-1,2,3,4-tetrahydroquinolin-3-yl]-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
 2,3-dichloro-*N*-[(6*S*)-7-oxo-5,6,7,8-tetrahydroimidazo[1,2-*a*]pyrimidin-6-yl]-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;
 2,3-dichloro-*N*-(2oxo-1,2,3,4-tetrahydro-1,5-naphthyridin-3-yl)-4*H*-thieno[3,2-*b*]pyrrole-5-carboxamide;
 2-chloro-*N*-(2-oxo-1,2,3,4-tetrahydro-1,7-naphthyridin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
N-(6-fluoro-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
 and
N-(6-methoxy-1,2,3,4-tetrahydroquinolin-3-yl)-6*H*-thieno[2,3-*b*]pyrrole-5-carboxamide;
 or a pharmaceutically acceptable salt or an in-vivo hydrolysable ester thereof.

13. A pharmaceutical composition which comprises a compound of claim 1, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof in association with a pharmaceutically acceptable diluent or carrier.

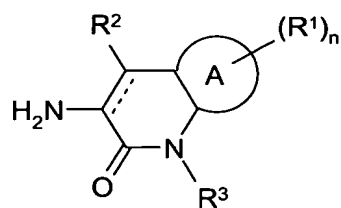
14. A method for the treatment of type 2 diabetes, insulin resistance, syndrome X, hyperinsulinaemia, hyperglucagonaemia, cardiac ischaemia, or obesity in a warm-blooded animal, comprising administering a compound of claim 1, or a pharmaceutically acceptable salt or in-vivo hydrolysable ester thereof.

15. A process for the preparation of claim 1, which process comprises:
 reacting an acid of the formula (2)



(2)

or an activated derivative thereof; with an amine of formula (3)



(3)

and thereafter if necessary

- i) converting a compound of the formula (1) into another compound of the formula (1);
- ii) removing any protecting groups; or
- iii) forming a pharmaceutically acceptable salt or in-vivo hydrolysable ester.